a2b design for TV

mym micro master

User Manual

- Compact unit with 2 DVB-T tuners
- MPEG-2 and MPEG-4 compliant
- 3 analogue modulators
- Two CI for decryption or multidecryption
- NICAM or A2 stereo
- 12-volt power supply
- Low power consumption

MyM 3T

DVB Digital Video Broadcasting

English

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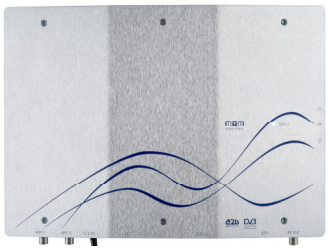
2 Unpacking Your MyM

When unpacking the carton following items should be included.

1. MyM
2. Power adaptor
3. User Manual



3 Introduction

Thank you for purchasing the MyM Micro Master, a quality product developed and manufactured by A2B Electronics.

The MyM is a unique solution that allows you to watch digital television on all your TV sets. The MyM receives all terrestrial digital programs, and re-transmits 3 programs simultaneously to all your TVs.

This User Manual describes how to install and connect your MyM quickly and easily .

In the unlikely event that you experience any difficulties please refer to Chapter 10, Support and Trouble Shooting.

4 Information about digital terrestrial television

Today there are digital terrestrial channels available, both free to air and encrypted channels.

The terrestrial digital channels are transmitted in muxes. A mux (or multiplex) is a package of channels that are transmitted on the same frequency. Each mux normally contains between 4 and 7 channels. Frequently a mux will contain both free to air and pay TV channels.

The MyM receives transmissions from 2 muxes, and re-transmits 3 of the digital channels in analogue with Nicam or A2 stereo to all connected receivers (TV-sets, VCR's etc.) in the cable TV network. There is also a loop through of the digital muxes, which makes it possible to connect a Set Top Box (STB) after the MyM.

5 Installation Part one

The MyM should be mounted correctly to ensure excellent performance over a long period of time.

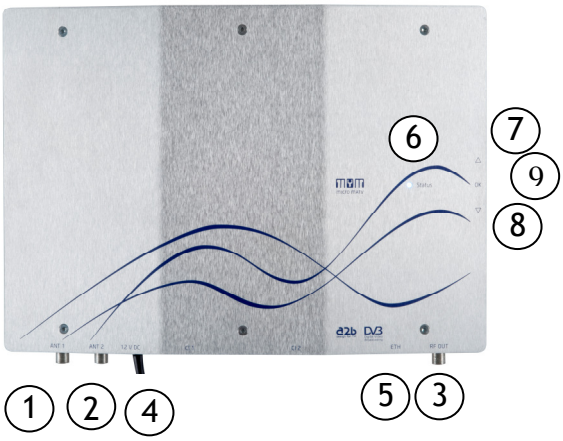
Please note that it is important to mount the MyM vertically for correct airflow. Attach the MyM to a suitable surface using the holes on the back side. We recommend that you use 2 screws (3.5mm x 20 mm). There is also a wall mount plate that can be locked for protection of the CAM's.

Install the MyM for easiest connection of the cables. If the MyM is installed in the attic, mount it close to the aerial. Also, make sure you have a 230V AC power outlet. For more information about how to install the MyM please refer to Chapter 7 Installation.

6 Connectors and buttons

Connectors and buttons

1. Aerial in
2. Antenna loop through
3. TV out
4. DC-power (12 V)
5. RJ-45 for updates [1)]
6. LCD operation indicator
7. Arrow up for menu navigation
8. Arrow down for menu navigation
9. OK button for showing menus and for menu choice



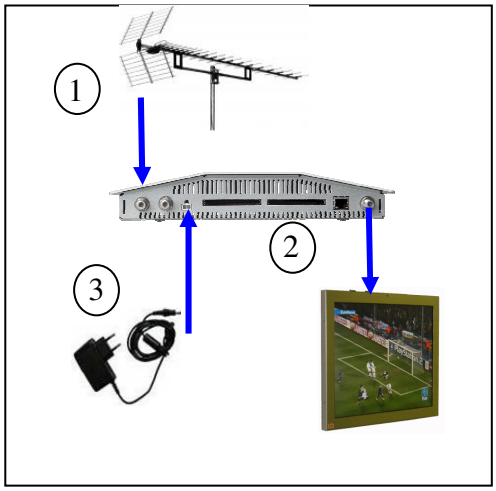
1) See www.a2b.se for information about new software.

7 Installation Part two

7.1 Connection to one TV

If you only want to connect one TV, or one TV combined with a VCR / PVR, the most straight-forward installation is to mount the MyM on the wall close to the TV.

1. Connect the aerial cable to the aerial input on the MyM
2 Connect the one end of a RF cable to the RF output on the MyM, and connect the other end to the aerial in socket on your TV.
3 Connect the power adaptor (only use the adaptor delivered with the MyM).
4 The MyM will now start an automatic channel search. When the channel search is finished the LED on the MyM will turn green and you will need to do a channel search on your TV set. See Chapter 7.3 Automatic installation and channel search, for more information.



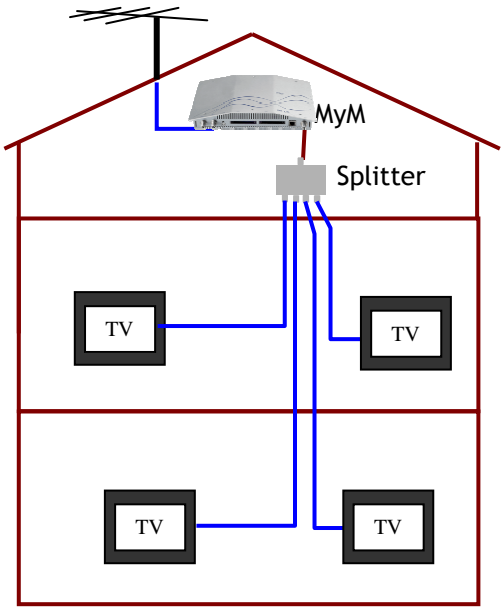
Note! Do not use any other the power adaptor than the original one with the MyM.

7.2 Connection to a Cable network

The MyM should be connected close to the aerial, before the signals are split to the cable network.

If there is an amplifier connected to the splitter you should first try to install the MyM without the amplifier, because the MyM has an embedded amplifier.

If there are very long cables in the cable network, an amplifier can be needed and should then be connected after the MyM.



7.3 Automatic installation and channel search

The MyM will automatically start a channel search when it is connected to a TV aerial and the power adaptor is connected. The MyM will search for the strongest transmissions, and after that it will start transmitting three channels according to the table below:

Channel	Frequency
S11	231,25 MHz
S13	245,25 MHz
S15	259,25 MHz

The channel search takes about 60 seconds. When the channel search is complete, and the MyM have found FTA channels, the LED on the MyM switches to green.

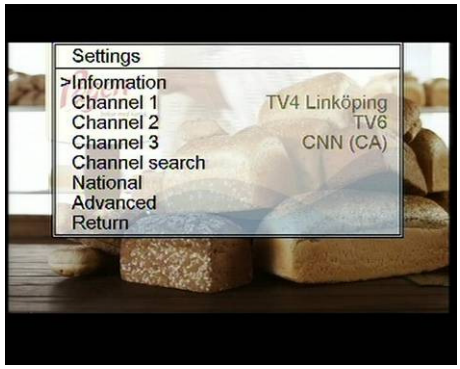
NOTE! In normal operation the LED flashes green.

7.4 TV channel search

Once the channel search on the MyM is complete you will need to do a channel search on all TV's and VCR's in the cable network. Many TV sets have an automatic channel search facility - for more information please refer to the TV and VCR User Manuals. Channels coming from the MyM will be highlighted by a text box with "MyM 1" in the upper right corner. This text box will disappear automatically after 8 hours. You can also remove the text box manually via the menu system of the MyM, see Chapter 8 Menu settings, for more information.
If you need help to install your MyM, please contact your local dealer/installer. You can also visit our web site for more information: www.a2b.se

8 Menu settings

The MyM has a menu system for changing settings and functionality. The menus are shown on the TV screen. Press the OK button on the MyM (see Chapter 6 Connectors and buttons) to display the menus. The picture to the right shows the main menu. Use the arrow up and arrow down buttons on the MyM to navigate the menus. Exit the menu by moving the indicator to “Return” and then press the OK button on the MyM.



8.1 Basic settings

In the basic settings you can find information about your MyM, choose what programs are transmitted by the MyM, and start a new channel search.

8.1.1. Information

The information box displays the hardware version and the software version of your MyM. It also displays the serial number of your MyM.

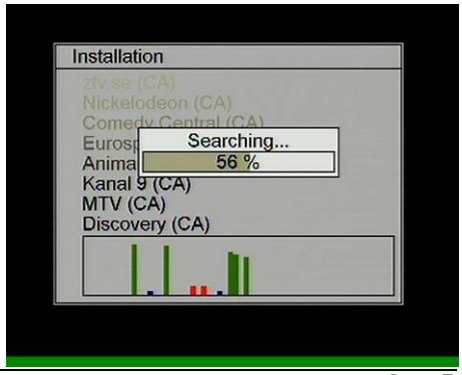
8.1.2 Choosing channels (Channel 1, 2,3)

This menu is used for selecting which digital television channels are transmitted by the MyM on Channels 1, 2 and 3.

- Move the indicator (using the arrow buttons on the MyM) to the Channel you want to change.
- Press the OK button on the MyM to show all the digital television channels.
- Select the digital television channel and press the OK button again.

8.1.3 Channel search

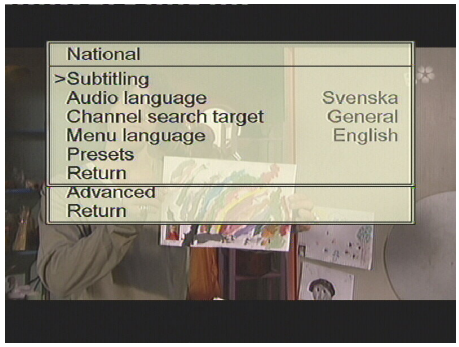
The first time the MyM is installed it will do an automatic channel search to tune in all available digital channels. This menu can be used for starting a new channel search, for example if you take the MyM to a new location.



Connect the TV aerial before starting the channel search. To follow the channel search process tune a TV to channel S11 (231,25 MHz). During the channel search all the signals that come from the aerial are shown at the bottom of the screen by individual channels (frequencies) and signal strength. The digital muxes have green indicators. Other signals have blue indicators. Please refer to Chapter 8.2 Advanced Installation, for more information about signal quality and how to how to adjust the TV aerial.

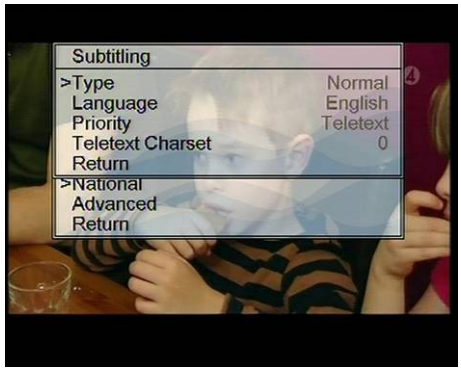
All the channels that are received and identified are displayed in the background.

8.1.4 National



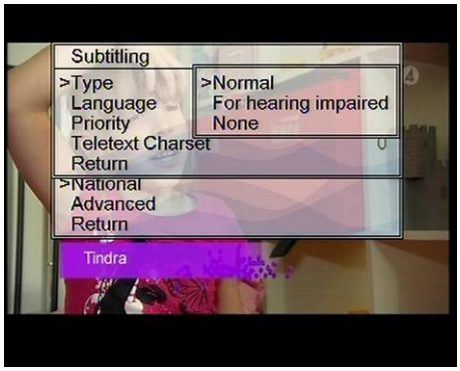
This menu is used to change the country settings. You can choose your preferences for subtitling, audio language, channel search, menu language and presets.

8.1.5 National – Subtitling



Use this menu to set your preferences for subtitling. It is possible to set the type of subtitling, choose the subtitle language and select between DVB-T or teletext subtitling, and set the teletext character set. This menu can also be used to switch subtitling off (None).

8.1.5.1 Type

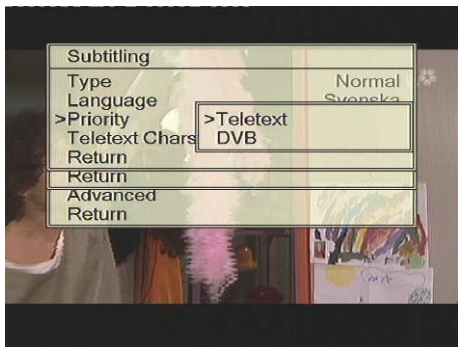


Use this menu to choose between normal subtitling or special subtitling for the hearing impaired. This offers enlarged subtitles and colour coded text. Alternatively all the subtitling can be switched off. The MyM is preset to "Normal".

8.1.5.2 Language

In this menu you select what language that should be used for subtitling.
NOTE! *There are more choices than you can see in the window. Scroll up or down to see all choices.*

8.1.5.3 Priority

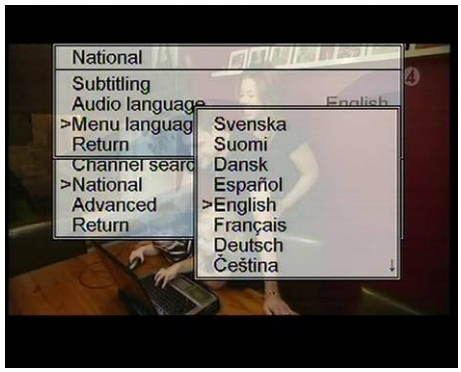


Subtitling can be transmitted in different formats; via “teletext subtitling or “DVB subtitling”. The format is automatically selected by the MyM. Sometimes both formats are transmitted and the MyM then automatically chooses the format according to the priority set here.

8.1.6 National – Audio language

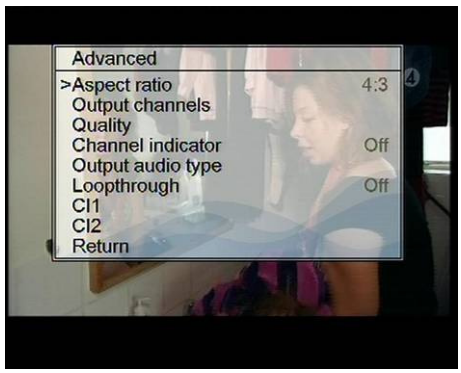
This menu is used to set your preference for audio language, when a TV program is broadcast in more than 1 language.

8.1.7 National – Menu language



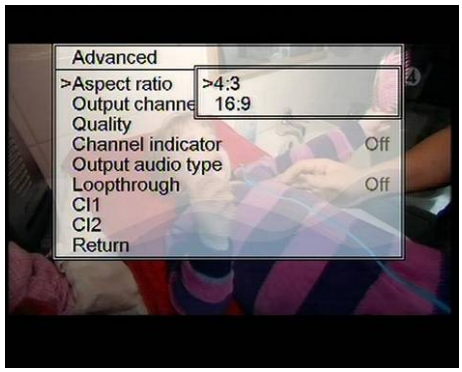
This menu is used to set your preference for the language used in all the Menus in the MyM.

8.2 Advanced settings



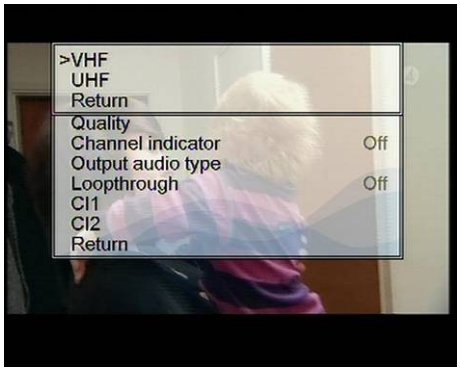
In the advanced settings menu you will find settings for picture format, output channels, signal quality, Auto MUX search, Channel indicator, Output audio type and Loopthrough.

8.2.1 Aspect ratio (Picture format)

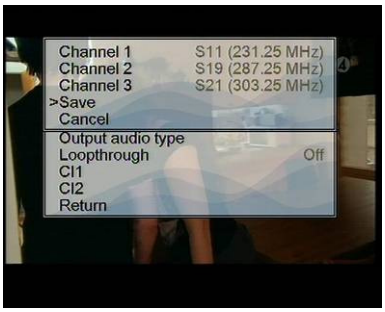


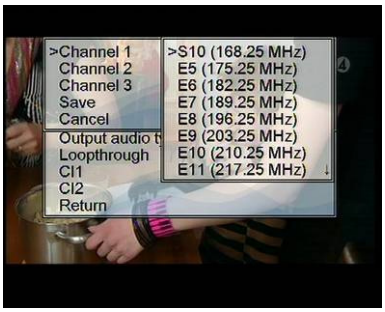
The picture format can be set to 4:3 or 16:9 (Widescreen). If the main TV is 4:3 choose 4:3 to watch 4:3 programs in full screen and widescreen programmes (16:9) in the letterbox format where the full width of the picture is shown and the top and bottom of the picture are black. Choose 16:9 if the main TV is widescreen to watch 16:9 programmes in full screen.

8.2.2 Output channels

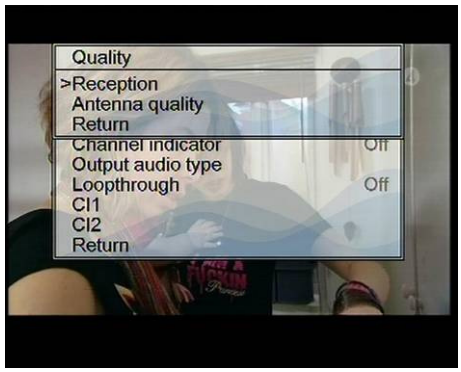


Use this menu to choose the output frequencies for the MyM. After automatic installation you will find the preset channels on VHF output at channels S11, S13 and S15 respectively. This menu allows you to choose between VHF (S10 to S41) or UHF (E21 to E69) as output channels.





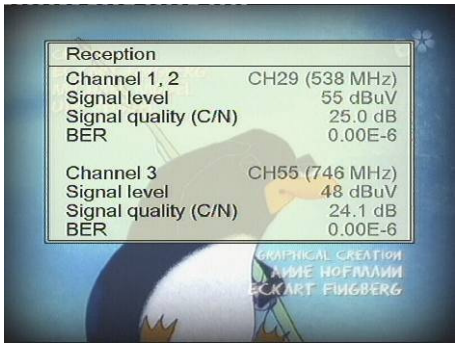
8.2.3 Quality



This menu is used to test the signal quality and the aerial reception quality. It may be necessary to adjust or upgrade the TV aerial to ensure good picture and sound on all channels. For more information see Chapter 8.2.3.1 Reception.

The MyM has an inbuilt spectrum analyser to help optimise the aerial installation. For more information see Chapter 8.2.3.2 Antenna Quality.

8.2.3.1 Reception



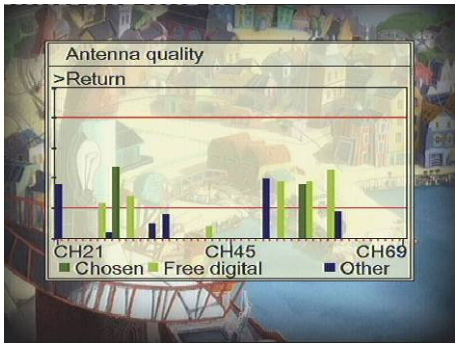
Use this menu to measure the reception quality of each channel. If these are not optimal it is possible that the picture and sound quality will deteriorate in poor reception conditions and it may be necessary to adjust the aerial. The information refers to the 2 installed muxes for the 3 channels.

The menu shows the channels numbers and frequencies of the 2 installed muxes. Good reception quality requires a strong incoming signal. For more information on the optimal signal strength see Chapter 8.2.3.2 Antenna Signal. It may be necessary to adjust the aerial for optimal signal strength. The signal quality C/N (Carrier to Noise) value is a measurement of the relationship between the aerial signal and disturbance in the channel. This should be higher than 20 dB. The BER (Bit Error Rate) measures the number of ratio of the number of faulty bits received to the total number of bits received. The BER should be as low as possible and less than 2.00E-4 ($2*10^{-4}$) to ensure good quality picture and sound.

If all the parameters for the incoming signal are good but there are still problems with the picture or sound quality it is likely that there is a problem with the cable that connects the TV / VCR to the MyM.

8.2.3.2 Antenna quality

The MyM has an inbuilt spectrum analyser. This shows the level of the incoming signals on the VHF and UHF band (47 to 862 MHz). The picture to the right shows the signal level of the incoming channels. The two chosen muxes for the installed channels are green. The recommended level for the incoming channels is between 35 dBµV and 75 dBµV (between the 2 red horizontal lines).



Check that the green columns are between the 2 red horizontal lines. If not it may be necessary to adjust or upgrade the TV aerial.

8.2.5 Channel indicator

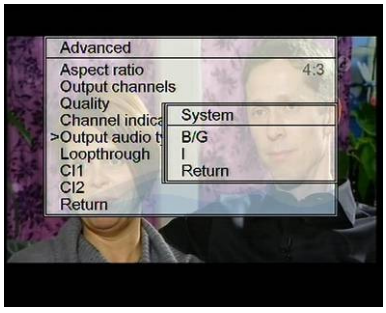
The MyM Channel indicator can be switched between on and off. When the channel indicator is on, a text box with ”MyM 1” will be shown in the upper right corner of the picture. After installation the channel indicator is automatically switched on for 8 hours to make it easier to do a channel search on the TV. During normal operation, the channel indicator is off.

8.2.6 Output audio type

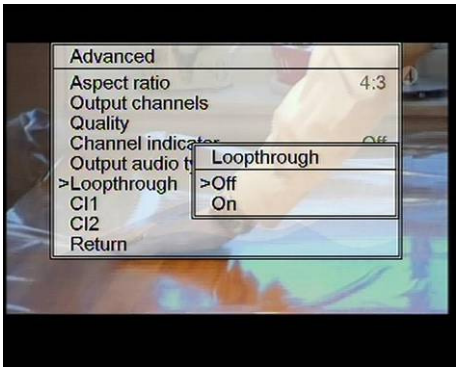
In this menu it’s possible to choose between different Audio types like Nicam, A2 or A2*.

8.2.6.1 TV System for audio

Here you select which TV system that will be selected for the sound. Most common in Western Europe is B/G.

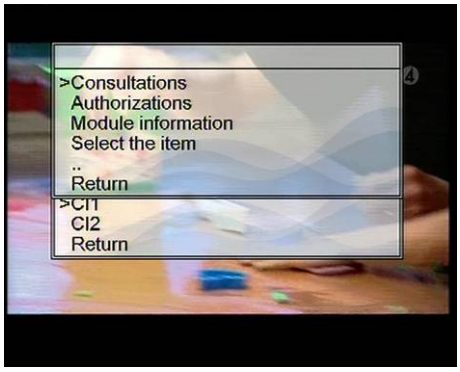


8.2.7 Loopthrough



In this menu you can choose whether you want the antenna signals to pass through the MyM. If you select mode "On" then the FM, VHF and UHF band to be imported and thus these signals will be available in the antenna network after the MyM. Appropriate to put in the "On" mode if the MyM is connected to a network with digital TV boxes or TV sets with built-in digital receiver.

8.2.8 CI 1 and CI 2



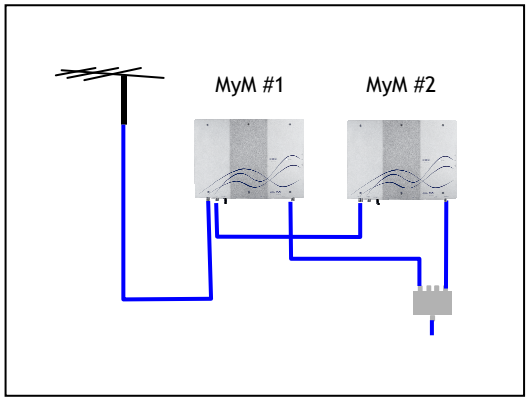
The CI 1 and CI 2 menus gives you the possibility to get information about CAM and Smartcard. CAM Interface 1 (CI 1) is used for decryption of services that is selected for Output channel 1 and 2. CAM Interface 2 (CI 2) is used for decryption of one service for Output channel 3.

9 Multiple installation

9.1 Installation of multiple MyM's

You can link MyM's to view more programs on all your TVs. The maximum number of MyM's you can cascade is 4. The limit is set by the S/N value that has to be above a certain level to give a good picture quality.

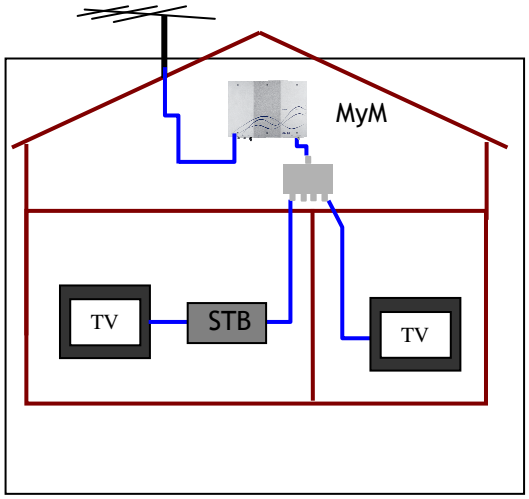
To link 2 MyM's:



- Install the first MyM
- Do a channel search on the TV
- Change output channels in the MyM no 1.
- Link the MyMs with a cable from "Ant 2" connection on the first MyM to "Ant 1" connection on the second MyM. Connect the output of the two MyM's with a combiner (see picture).
- Power up and install the second MyM
- Do another channel search on the TV and find the MyM channel one for each MyM. Please remember that you can't use neighboring output channels, not even if they are on different MyM's.

9.2 Connecting a Set-Top-Box with the MyM

The MyM has a loop-through facility that makes it possible to connect digital Set Top Boxes (STB) after the MyM for households in the Cable network that want to watch other channels than those supplied with the MyM.



10 Support and trouble-shooting

If you need more help with installation, please contact your local dealer. You can also find more information on our web site: www.a2b.se

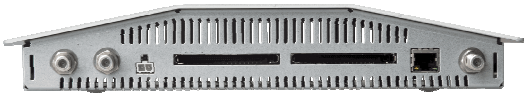
10.1 Trouble-shooting

Error	Analysis	Probable cause	Action
No sound or picture	Indicator LED red	No or poor signal from the aerial	Adjust or replace the aerial for a better signal
No sound or picture	Indicator LED green	Channel search not done on TV	Do a channel search on the TV
The TV picture shows a menu		Menu not switched off	Go to ”Return” with the arrow buttons, then press the [OK] button on the Multibox
Flickering sound	Is the picture OK?	Low signal level from the aerial	Adjust or replace the aerial for a better signal
Flickering sound and blockings in the picture		Low signal level from the aerial	Adjust or replace the aerial for a better signal
Flickering sound and blockings in the picture	Is the MyM lying down?	Overheating due to faulty installation	Install the Multibox vertically according to the instructions
No stereo sound	Does your TV set have stereo? Is stereo selected?	No stereo decoder in your TV	Consider purchasing a TV with Nicam/A2 stereo sound
No Pay-TV reception		The MyM only receives free-to-air digital terrestrial programs	Consider purchasing a Set Top Box for Pay TV programs
Flickering sound and/or blockings in the picture	Are you using an aerial signal amplifier?	The input level to the MyM or to the TV is too high	Remove the aerial signal amplifier

11 Technical specification

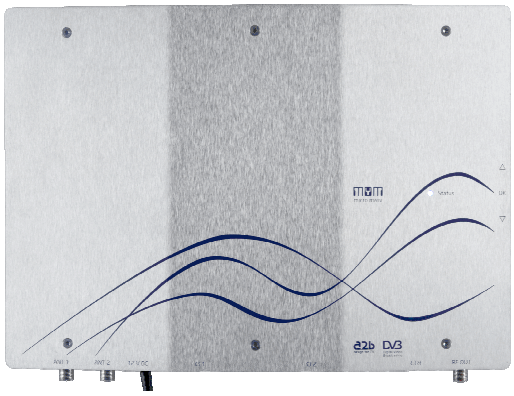
2 x DVB-T TERRESTRIAL RECEIVER

Frequency range	47-862 MHz
Connector	Type F female, 75 ohm
Input level range	Nom. 35 – 75 dBµV
Bandwidth	7/8 MHz
Number of tuners	2



3 x MPEG DECODER – VIDEO - AUDIO

Video standard	MPEG2 MP@ML, MPEG4 H.264 AVC
Audio standard	AAC HE or MPEG1 Layer II AC-3 (option)
Aspect ratio	Letterbox, Anamorphic,
Teletext	Insertion in VBI
Subtitling	Teletext or DVB subtitling



3 x MODULATOR

Modulation standard	PAL B/G, I, D/K (DSB)
Audio	FM-mono, NICAM stereo A2 or A2*
Output channels	160 to 862 MHz Pre-selected: S11, S13, S15
Output level	typ. 80 dBuV, fixed
Loop-through	47 - 862 MHz Selectable On/Off
Built-in aerial amplifier	5 dB
RF output connector	Type F female, 75 ohm

DECRYPTION

Decryption interface	Common Interface (PMCIA 5VDC)
Decryption type	Single or Multidecryption CAM's supported

OTHERS

AC Power supply	230 VAC typ (94-264 VAC)
AC Power consumption	Typ. 18 W
DC output power	12 VDC +/- 10%
DC power consumption	Typ. 15 W
Size	301x215x53mm (excl. connectors)
Weight	approx. 900 g
Operating temperature	-20 to +45°C

We reserve the right to technical changes without prior notice.

12 Declaration of Conformity

Declaration of Conformity

EC Directives

MyM 3T complies to the relevant parts of the directives and standards below.

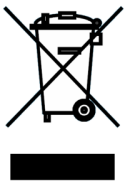
Directives

- **Electro magnetic compatibility directive (EMC) 89/339/EEC**
- **Low voltage directive (LVD) 73/23/EEC**
- **CE-marking directive 93/98/EEC**

Standards

EMC: Emission - EN61000-6-3:2001
Immunity - EN61000-6-1:2001

Safety : EN 60 950-1:2001



Further information on www.a2b.se

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